

About braille

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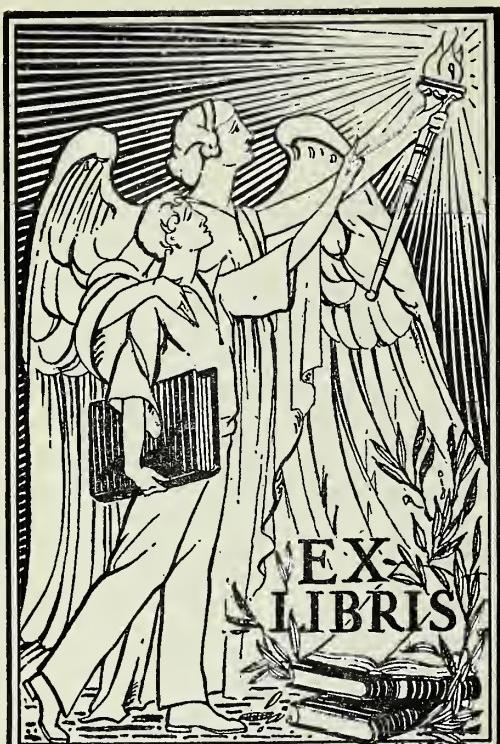
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**AMERICAN FOUNDATION
FOR THE BLIND INC.**

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ABOUT BRAILLE

by

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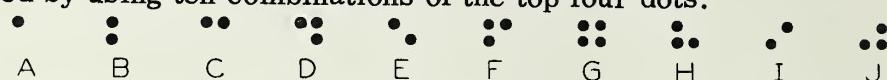
The Military Mind has made one of its noblest contributions in what it has done for the blind, for the origin of braille can be laid at the tent flaps of Barbier, an officer in Napoleon's army, who called his system "Night Writing." He was seeking a means of sending messages which could be read by touch at the front at night without exposing a light.

Barbier's method was not successful. It took the ingenuity of a blind man, Louis Braille, to make it practical. Originally Braille thought of braille solely for representing music. He soon realized that it could be used with equal facility to express almost anything which has meaning to the human mind. It can set forth the mightiest fugues of Bach, the most intricate calculations of Einstein, the structural formula of the newest antibiotic, or a bit of "Rock and Roll." It can put down the language of an obscure tribe in Africa, the fantastically complicated seven alphabets of Ethiopia, the intricate speech of Japan. No spoken tongue is beyond its pale. All this it does in a mere six dots.

HOW BRAILLE WORKS

The Braille cell is three dots high and two dots wide. This means, of course, that 63 different characters are possible.

Braille started by using ten combinations of the top four dots:



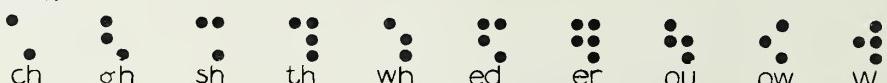
The same ten characters, when preceded by a special sign, are used to express numbers -- 1 to 0. To make the next ten letters, the lower left hand dot is added:



If the lower right hand dot is now added, ten more characters are formed:



W, it will be noted, has not yet appeared, since it was not used in the French Language. It does, however, show up in the next line which is again a repeat with the lower left hand dot omitted:



And so the construction continues until all possible combinations have been assigned meanings.

The right hand dots, standing alone in any combination, are used to change the meaning of the following character. These form the so-called two cell signs. Some of the two cell signs express complete words; others represent combinations of the letters. If the middle right hand dot precedes an "n", the meaning is name. If the top and bottom right hand dots precede the "n" the meaning is tion while if the bottom dot only precedes it, the meaning is ation.

This same bottom dot preceding any letter at the start of a word means that the letter is capitalized. This extra significance is not confusing because no word begins with ation. There are a number of instances where the same symbol has different meanings depending on where it appears. One symbol, for example, at the beginning of a word means dis. Inside a word it means dd. At the end of a word it means a period. If it is followed by the numeral sign it stands for \$.

In different applications, other values are assigned. In mathematical braille, for example, the symbol for the becomes the sign for the integral. The sign for ing means plus. The right hand dots are used to locate symbols above or below the line. In German, the ou sign means an umlaut u; the ow sign means an umlaut o, and so on.

Insofar as possible, in developing braille for different languages equal signs are used for equal sounds. Unesco has published a compendium called "World Braille Usage," which occupies 172 pages.

Grade I braille in any language is fully spelled out; that is each character is represented by a separate sign. In English and many other languages Grade I is rarely used. Instead, a contracted or Grade II is taught even to beginners. This is not, strictly, shorthand, since the spelling is always indicated, though it approaches shorthand in the space it saves. Many of the symbols already given are from Grade II usage.

The Multigraph braille font includes separate pieces of type for each of the 63 characters as well as for spaces. This is to simplify setting up the type, since otherwise most of the pieces can be used to produce two symbols by simply inserting them in a reversed position. An "a" reversed would become a capital sign. The type is so designed that characters can be reversed, if supply of a given piece has been used up.

This means that the Multigraph Braille Duplicator is capable of producing standard braille for any language, for music, for mathematics, for chemistry notation.

What this means, practically, is that any school for the blind, any agency for, or organization of the blind, volunteer groups, religious groups will be able at relatively low cost, to set up and produce braille, large text type material for persons with very low (but still usable) vision, or for their educational or fund-raising material for the sighted public. Parents who want their blind children to attend regular public school classes in their own communities can look forward to an increasing supply of braille school books. Engineers can look forward to more and more braille versions of mathematical and other tables. In some communities local news digests may become a reality.

It is a fact today that relatively few blind people read braille -- perhaps only one in four. This is partly because so many have become blind late in life -- half are assumed over 65. Too often braille is regarded as a badge rather than a tool of blindness and too often it is not well taught. Moreover, the scope of available material in the past has not always made the effort to learn braille seem worthwhile. It may very well come about that the Multigraph Braille Duplicator will lead to such a new richness in currently topical material that the motivation will become much stronger.

People at age 65 can and do learn braille. Some have become really proficient. Blind people who have learned braille as children are able to read 200, 250, 350 words a minute -- some claim even higher speeds. Adults only rarely approach these rates. Some adults claim that their fingers are too calloused or too insensitive to read braille. Rarely is this really the case. There are blind people who can read braille wearing thin gloves. As one expert put it, "You don't read braille with your finger; you read it with your brain!"

Initially, the beginner is likely to press too hard and to move his finger about, in an effort to see all the dots. This prevents attainment of any real speed. Many of the best readers read simultaneously with both hands. While the right hand is finishing line 1, the left is reading into line 2, storing the information in the unconscious for the moment then dropping it into place.

Experts in Communication Theory have begun to show an interest in this system since it has notably little redundancy. And recently air force researchers found themselves wondering if it might have any value in the jet plane cockpit. It is conceivable that soon it may have come full circle, and that the improvements blind people have made on Barbier's brain child may finally have some use for The Military.



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